

**Notice of Allowability**

Application No.

10/630,411

Examiner

Ryan Lepisto

Applicant(s)

MULE ET AL.

Art Unit

2883

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 26 August 2005.
2. ☒ The allowed claim(s) is/are 11-22, 24-32 and 35-52.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                 | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Allowable Subject Matter*

1. **Claims 11-22, 24-32 and 35-52** are allowed.

The following is an examiner's statement of reasons for allowance:

With regard to claims 11, 25 and 38: These claims are allowable over the prior art of record because the latter, either alone or in combination, does not disclose nor render obvious a structure for optical clock distribution comprising at least one vertical-to-horizontal input diffraction grating, at least one horizontal-to-horizontal diffraction grating and at least one horizontal-to-vertical diffraction grating in the core layer wherein each grating diffracts the clock signal in a plurality of directions so the signal is uniformly distributed vertical, laterally and vertically again throughout the structure substrate, in combination with the rest of the claimed limitations.

With regard to claims 12-18, 26-27 and 50-52: These claims are allowable over the prior art of record because they depend from allowable claims 11 and 25:

With regard to claims 19, 22, 28 and 35-37: These claims are allowable over the prior art of record because the latter, either alone or in combination, does not disclose nor render obvious a structure for optical clock distribution comprising an integrated circuit device or substrate, a first cladding disposed on the device or substrate, a core layer disposed on the first cladding, a second cladding disposed on the core, a vertical reflection absorption layer adjacent the first or second cladding depending on which has the following gratings disposed in them (wherein if the gratings are in the core, then the

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absorption layer is on the second cladding layer): at least one vertical-to-horizontal input diffraction grating, at least one horizontal-to-horizontal diffraction grating and at least one horizontal-to-vertical diffraction grating or disposed on the layer wherein at least one of the gratings diffracts the clock signal in a plurality of directions so the clock signal is uniformly distributed through the layer wherein if the gratings are in the first cladding, the second cladding is not needed, in combination with the rest of the claimed limitations.

With regard to claims 20-21, 24, 29-32, and 39-49: These claims are allowable over the prior art of record because they depend from allowable claims 19, 22 and 28:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

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Date: 8/31/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800